



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/759,899

01/16/2004

Luo Qiang

50019.0269US01

8473

1333

7590

11/15/2005

BETH READ

PATENT LEGAL STAFF

EASTMAN KODAK COMPANY

343 STATE STREET

ROCHESTER, NY 14650-2201

EXAMINER

CHAUDHARI, CHANDRA P

ART UNIT

PAPER NUMBER

2891

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,899

Applicant(s)

QIANG ET AL.

Examiner

Chandra Chaudhari

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/22/04, 8/31/05</u> | 6) <input type="checkbox"/> Other: _____ |

Figures 3a-3b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Mita – US 5,252,851.

Mita (Figs. 1, 7 and text in col. 5, line 30 to col. 6, line 54 and col. 8, line 64 to col. 9, line 38) discloses the claimed invention by forming a P well on a P type epitaxial layer where an intervening epitaxial material exists, forming an N type diode electrode structure, with bias electrode voltage applied, exposing a top surface of the intervening epitaxial material to light which forms a continuous area surrounding the electrode structure, and the substrate may be P type.

Claims 1, 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Mita – EP 0576009.

Mita (Fig. 1 and text in col. 8, line 36 to col. 9, line 51) discloses the claimed invention by forming a P well on a P type epitaxial layer where an intervening epitaxial material exists, forming an N type diode electrode structure, with bias electrode voltage applied, exposing a top surface of the intervening epitaxial material to light which forms a continuous area surrounding the electrode structure, and the substrate may be P type.

Claims 1, 3-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhao – US 6,586,789.

Zhao (Figs. 13-14 and text in col. 8, line 23 to col. 9, line 63) describes the claimed invention by forming a P well on a P type epitaxial layer where an intervening epitaxial material exists, forming an N type diode electrode structure, with bias electrode voltage applied, exposing a top surface of the intervening epitaxial material to light which forms a continuous area surrounding the electrode structure, and the substrate may be either N or P type.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

Art Unit: 2891

art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over (Mita – (either one) or Zhao) and applicant's admitted prior art.

(Mita - (either one) or Zhao) is applied as above does not disclose minimizing the capacitance in accordance with the claimed equation. Applicant's admitted prior art on pages 3-4 uses a formula applicable to imaging sensors where parameters may be optimized.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the equation as taught in the admitted prior art in either (Mita's or Zhao's) process to optimize the capacitance of the diode electrode structure.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen - US 2002/0162945 describes a light sensing diode.

Art Unit: 2891

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandra Chaudhari whose telephone number is 571-272-1688. The examiner can normally be reached on Mon - Fri (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chandra Chaudhari

Primary Examiner

Art Unit 2891



Chandra Chaudhari

November 11, 2005